CONNECTICUT COLLEGE
LIBRARY
NEW LONDON, CONN.
FEB 2 1972

# THE NATURE CONSERVANCY NEWS

## WINTER 1972

# NEW LIFE MEMBERS

An individual becomes a Life Member of The Nature Conservancy upon contribution of $300 for membership dues. Patrons contributing $1,000 and Sponsors contributing $500 are also granted Life Membership as special distinction among Annual Members. The contribution is used in the following ways: (1) $300 is added to the Guarantee and Income Fund for the Conservancy's endowment; and (2) the amount of a contribution above $300 is placed in the General Fund to support the Conservancy's national operations.

## PATRONS ($1,000)

**Mrs. Barry Bingham**
Kentucky

**Mr. and Mrs. J. Blake Dunson, Sr.**
Florida

**Mr. and Mrs. James B. Dunson, Jr.**
Delaware

**Mrs. Ernest B. Tracy**
Connecticut

## SPONSORS ($500)

**Mr. James C. Butt**
Pennsylvania

**Mr. William N. Creasy**
New York

**Mrs. John Leddy Jones**
Texas

**Mr. Arthur R. Lord**
Illinois

## LIFE MEMBERS ($300)

**Miss Ruth Elizabeth Adomeit**
Ohio

**Mrs. Jack Allen**
Florida

**Miss Janet Aylward**
New Jersey

**Mr. Richard J. Bartlett**
New York

**Mr. William G. Bodenstein**
Maryland

**Mr. Jay W. Butts**
Washington

**Mr. Carlton E. Byrne**
California

**Mr. Joseph S. Clark**
Pennsylvania

**Miss Caroline Ferriday**
Pennsylvania

**Mr. Edward Foss**
Montana

**Mr. Dudley A. Gilbert**
New Jersey

**Miss Robin A. Hamlin**
California

**Mrs. Vivien B. Hickman**
Ohio

**Mr. William E. Lingelbach, Jr.**
Pennsylvania

**Mr. Raymond P. Moore**
California

**Mrs. F. Alex Nason**
Ohio

**Mr. George W. Perry**
Maine

**Mr. Guy H. Richardson**
California

**Miss Jane S. Robbins**
Maryland

**Mr. Stanley M. Rowe, Jr.**
Ohio

**Mrs. Rodolphe M. Schauensee**
Pennsylvania

**Mr. Ray Schulenberg**
Illinois

**Mrs. Alice T. Strong**
Maryland

**Mr. Herman V. Von Holt**
Hawaii

**Mrs. Iva May Warner**
California

**Mrs. Edward P. Williams**
Connecticut

**Mrs. John P. Wilson, Jr.**
Illinois

## ANNUAL MEMBERSHIPS

| SPECIAL | REGULAR | |
|---|---|---|
| $1,000 Patron * | $100 Guarantor | $15 Family |
| $1,000 Corporate | $50 Supporting | $10 Subscribing |
| $500 Sponsor * | $25 Contributing | $5 Junior (under 18) |

Members receive the *News*.

* (Includes Life Membership with initial contribution)

Contributions to The Nature Conservancy are tax-deductible.

## BOARD OF GOVERNORS

Warren M. Lemmon, **Chairman;** Wallace C. Dayton, William E. Howard, George R. Cooley, **Vice Chairmen;** Richard S. Weinstein, **Secretary.**

Alexander B. Adams, John Archbold, Brandon Barringer, Mrs. Barry Bingham, Ernest Brooks, Jr., Charles Dow, H. P. J. Duberg, Richard H. Durrell, Bayard Ewing, Richard H. Goodwin, Alfred E. Heller, Estella B. Leopold, Rudolph O. Marcoux, Cyrus Mark, Mildred E. Mathias, Richard Gordon Miller, Lyle M. Nelson, Gordon K. Smith, Thornton Thomas, Mrs. Thomas M. Waller, Mrs. Charles P. Yarn, Jr.

## NATIONAL OFFICE

PRESIDENT: Thomas W. Richards

ECOLOGY ADVISOR: Robert E. Jenkins

OPERATIONS: Patrick F. Noonan, **Director;** Davis Cherington, **Preserve Management;** Richard G. Traurig, **Real Property Attorney;** Herbert H. Haywood, Henry H. Stebbins, Jr., **Staff Assistants.**

DEVELOPMENT: Christopher S. Dann, **Director;** Bradford C. Northrup, **Assistant Director;** Jack Lynn, **Public Relations;** Lynn Mohn, **Editor;** Josephine Johnson, **Membership Secretary.**

FINANCE: Robert Berner, **Acting Director;** Thomas J. Fitzgerald, **Controller;** Eileen Hulse, **Administration.**

## EASTERN REGIONAL OFFICE

Stephen L. Keiley, **Director;** Charles P. Bradford, Sharon Davis, Herbert Hiller, Farley Smith, Jr., **Representatives;** Clifford E. Emanuelson, **Director, Devil's Den Preserve.**

## MIDWEST REGIONAL OFFICE

Riesley R. Jones, **Director**

## MID-AMERICA/GULF REGIONAL OFFICE

DeVere E. Burt, **Director**

## WESTERN REGIONAL OFFICE

Huey D. Johnson, **Director;** F. S. Foote, Jr., Richard W. Goodspeed, David Gray, Phillip Wallin, Bruce F. Wolfe, **Representatives;** Steven P. Steinhour, **Director, San Francisco Bay Project;** Joseph C. Peacock, **Director, Northern California Coast Range Preserve.**

Copyright 1972
The Nature Conservancy



# THE NATURE CONSERVANCY NEWS

**Published Quarterly by The Nature Conservancy**
**1800 North Kent Street**
**Arlington, Virginia 22209**

**Volume 22, Number 1** **Winter 1972**



New Projects 4
*A review of projects begun in recent months*

The Fight to Save Florida 7
*New battles won for an endangered environment*

Redbud Valley 11
*Intriguing ecotone where east and west meet*

At Butler Sanctuary: Discovering the Earth & Its Creatures 14
*Conservation education program for elementary school children*

North Shore Dunes 16
*Windswept Lake Michigan Dunescape*

Ecology Forum: What *Is* a 'Preserve'? 17

Important Announcement: 18
*New Annual Membership Dues effective January 1, 1972*


**Cover Photo:** Snow-laden oak. Photo by U.S. Forest Service.

**Illustration, page 17:** Silhouette of white oak, by Roger Tory Peterson in *A Field Guide to Trees and Shrubs*, by George A. Petrides, 1958, Houghton Mifflin Company, Boston.

## LAND CONSERVATION THROUGH PRIVATE ACTION

The Nature Conservancy is a member-governed organization, receiving its support from the public, and was incorporated in 1951 in the District of Columbia for non-profit educational and scientific purposes.

The Nature Conservancy's first land-saving effort was in 1954. This very successful endeavor turned out to be the forerunner of 668 projects totalling over 265,000 acres in which the Conservancy has since been involved.

The Nature Conservancy works closely not only with numerous educational, scientific, and conservation organizations but also with municipal, state, and federal governments.

**The Nature Conservancy is the organization rallying the skills, the techniques, and the funds actually necessary to save land. Its total resources are massed for this one objective.**

B. Bourdon

# NEW PROJECTS

**California**

EWING PRESERVE—Weber Addition—(San Diego County). A gift of Mr. Karl Weber, this 4-acre canyonland with chaparral will expand the Alice Ewing Preserve to 23 acres.

OASIS DE LOS OSOS (Riverside County). The purchase of 160 acres of desert canyon with year-round stream was featured in the Fall *News* 1971, pages 8-9.

VOLLMER PROPERTY (Napa County). Gentle hillsides and rugged terrain covered with oak and patches of dense chaparral provide habitat for birds, small animals, and deer. The 158-acre tract was donated by Mrs. Beulah F. Vollmer.

**Connecticut**

DELACORTE PROPERTY (Town of Greenwich). A red maple swamp nestled between two rock ridges is bounded by a large brook on its eastern edge. The 8-acre tract was donated by Mr. and Mrs. George Delacorte and is adjacent to the Chauncy Keep Hubbard Preserve.

GRISWOLD MARSH (Town of New London). Two-thirds undivided interest in 18 acres of salt marsh and open field was donated by Mr. and Mrs. William E. S. Griswold, Jr. The preserve lies along the Duck River and is part of the important marsh complex at the mouth of the Connecticut River.

MILO LIGHT NATURE PRESERVE (Town of Montville). 338 acres are forested with red, black, and white oak, tulip, cherry, ash, black birch, and hickory, with an understory of mountain laurel. Swamps support highbush blueberry, azalea, and spicebush. The avifaunal area was donated by Mr. and Mrs. William Alquist.

**Florida**

CUMMER SANCTUARY OF THE SUWANNEE RIVER (Levy County). 985-acre hardwood forest of cypress, tupelo, and sweetgum along the lower Suwannee River is a gift of the Cummer Company of Jacksonville. See article beginning on page 7.

FUCHS HAMMOCK—Hood Addition—(Dade County). This purchase adds 5 acres to the existing preserve. Fuchs Hammock contains tropical hardwood forest of mainly West Indian species and is one of the few such remaining hammocks. Bromeliads, orchids, and rare mosses and ferns are prominent. *

U.S. Forest Service

SANIBEL ISLAND—Bancroft Addition—(Lee County). 21-acre addition to the Sanibel Island preserve is located in the slough area where saw grass prairie is interspersed with tropical hardwood hammock communities. The purchase enlarges the preserve to 221 acres.

**Hawaii**

KIPAHULU VALLEY—Phase II—(Maui County). On Kipahulu's western border, an addition of four buffer areas totalling 349 acres enlarges this lush valley of waterfalls, pools, and virgin tropical rain forest on the island of Maui to 4,674 acres. *

**Maine**

OUGHTY POINT (Cumberland County). Dr. and Mrs. Donald Macomber are the donors of one-half undivided interest in 20 acres of salt marsh and forest of white pine, fir, oak, maple, and Northern white cedar. Several pairs of ospreys nest nearby.

**Maryland**

HAMBLETON ISLAND (Talbot County). South of St. Michaels in the Chesapeake Bay, the 24-acre "island," now actually three separate islands, is densely forested with loblolly pine and cedar. Surrounding eelgrass-covered shoal flats serve as a feeding area for thousands of ducks during the winter. The purchase includes a 2-acre mainland tract. *

**Massachusetts**

KING'S MARSH (Nantucket County). Forested land slopes down to a marshy area near Nantucket Harbor on Nantucket Island. Donated by Mr. and Mrs. Timothy King, the 10-acre preserve is habitat for red-winged blackbirds, swans, bobwhites, quail, and pheasant.

**Michigan**

GRASS RIVER—Austin Tract—(Antrim County). Between Lake Bellaire and the Grass River, a gift/purchase of 62 acres contains grass-sedge marsh unique to the area. Floating sedge mats support pitcher plants, and dense balsam-white cedar swamp lines the river edges. Tall white pines tower over the swamp canopy. Numerous animals and birds, including deer, mink, otter, muskrat, osprey, green heron, and various ducks, depend on this community for food and shelter during all or part of the year.

NORTH SHORE DUNES PRESERVE (Ottawa County). 50 acres of duneland along the shores of Lake Michigan were donated by Mr. Gerald E. Lindquist. See story on pages 16-17.

**Montana**

LUBRECHT EXPERIMENTAL FOREST—Mahlum Addition—(Missoula County). 401 acres of Ponderosa pine and Douglas fir were purchased for use by the University of Montana School of Foresty as an outdoor laboratory and classroom. Grouse, elk, and white-tailed deer inhabit this area which will be a second addition to the University's 30,000-acre Experimental Forest.*

**New York**

ELDRIDGE WILDERNESS (Tompkins County). Sloping down from a high ridge, this 87-acre forested tract includes open fields and several streams with small waterfalls. A gift of Mr. Frank L. Eldridge, the land is being used by the Biology Department of Ithaca College as a study area.

HEMLOCK BROOK PRESERVE (Westchester County). A gift of Mr. Walter P. Lewisohn, the 14-acre preserve is cut through the center with a deep hemlock ravine which reaches up to a forest of oak, maple, and beech. A small stream runs year-round through the property.

ARTHUR KETCHUM SANCTUARY (Westchester County). Consisting of hemlock forest along the Beaver Dam River and oak, beech, and maple on the uplands, the 26-acre preserve is a gift of Mrs. Kerr Rainsford.

BERTHA AND REGINALD ROSE WILDLIFE REFUGE (Nassau County). 15 acres of hilly terrain with persimmon trees and understory of laurel, arbutus, and moccasin flower were a gift of Mr. Reginald P. Rose. The dominant hardwood is black birch, with maple, hickory, and several varieties of oak also present.

**Ohio**

BUZZARDROOST ROCK (Christian and Emma Goetz Preserve)—Bentley Addition II—(Adams County). Mixed mesophytic forest on dolomite formations covers this 40-acre purchase. This key buffer land on a south slope overlooking Ohio Brush Creek enlarges the existing preserve to 261 acres.*

RED ROCK (Earl F. Farnau Preserve)—Bentley Addition II—(Adams County). 20 acres of mixed mesophytic forest on dolomite formations add important bufferage to the Red Rock preserve, now totalling 83 acres. The purchased addition is located on a north-facing slope above Ohio Brush Creek.*

THE WILDERNESS (Charles A. Eulett Preserve)—Brown Addition—(Adams County). Located on a ridgetop and west-facing slope above the Ohio Brush Creek basin, the 32-acre purchase of forested land brings The Wilderness to 318 acres.

**Vermont**

MENDON PEAK (Rutland County). Secluded and spectacularly scenic, Mendon Peak and Little Killington rise 3,840 feet and 3,939 feet respectively in the midst of the Green Mountains. Two watersheds drain north and south into two separate streams. A gift/purchase, the 3,100-acre mountain wilderness tract is forested with spruce and fir. It will be transferred to the State of Vermont.

**Wisconsin**

BAXTER'S HOLLOW—Gruber Woods Addition—(Sauk County). Part of the Baraboo quartzite range, the 20-acre tract is forested with aspen, sugar maple, and red and white oak. A gift of Mr. and Mrs. Christian Gruber, the area is habitat for ruffed grouse, pileated woodpecker, white breasted nuthatch, and red-eyed vireo.

BAXTER'S HOLLOW—John Moely Woods Addition—(Sauk County). Donated by Dr. Donald R. Kindschi, 20 acres consist of red and white oak, shagbark hickory, sugar maple, and red cedar.

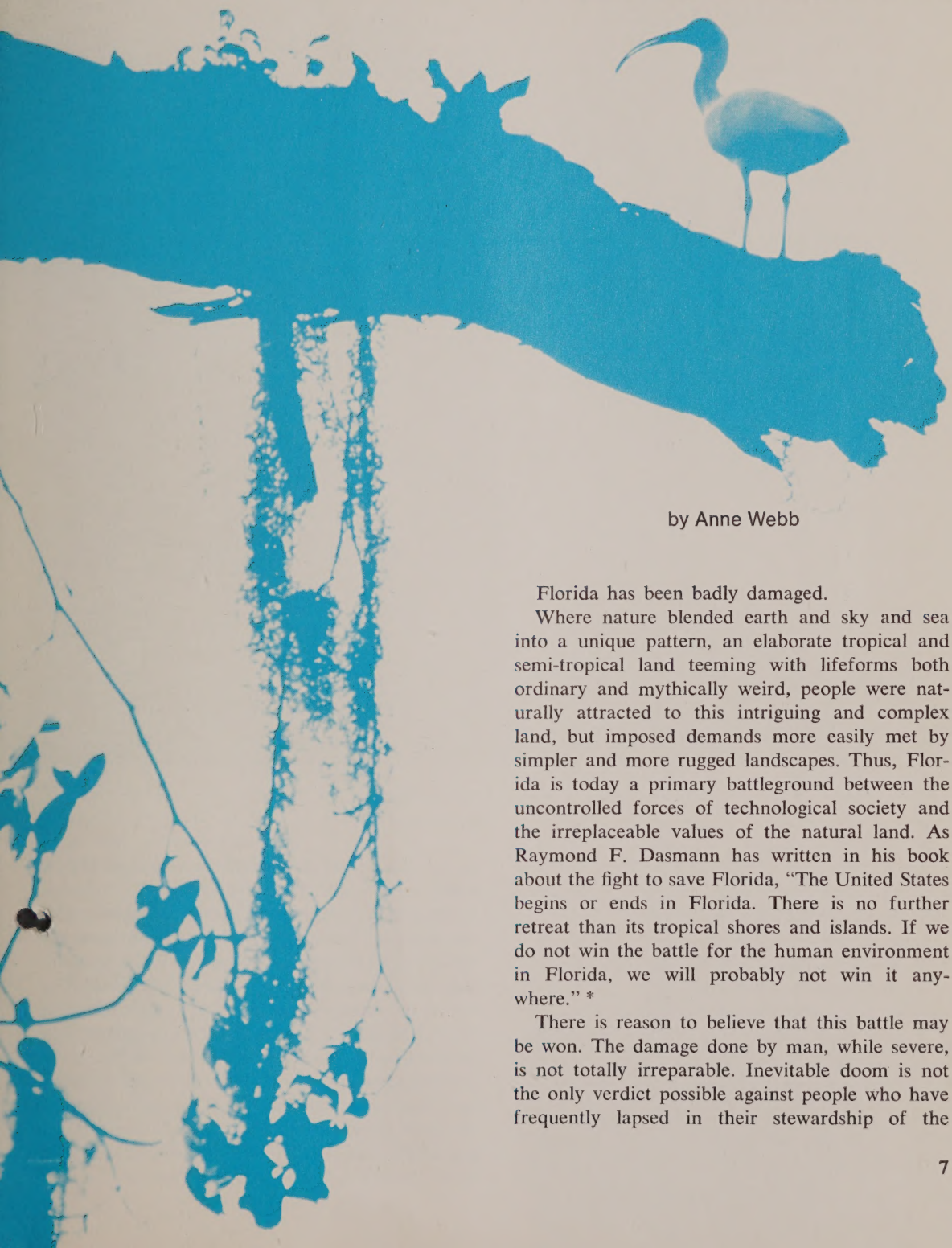
GASSER SAND BARREN (Sauk County). Covered with Hudsonia and herbaceous vegetation, the 3-acre preserve is composed of sparta sand and is formed by a portion of an old river terrace. The area is a gift of Mr. and Mrs. Lowell Wilhelm, Mr. Jerome Wilhelm, and Mr. and Mrs. Leonard Gasser.

**U.S. Virgin Islands**

TRITON BAY ROOKERY, St. Croix. To be maintained as a bird sanctuary, 10 acres of red and black mangrove on the Salt River Estuary are a gift of Mr. John B. Faile. The mangrove swamp and the many birds, including the brown pelican and white crowned pigeon, generate nutrients which benefit lobster larvae in the tidal area.

*FUND-RAISING IN PROGRESS

# THE FIGHT TO SAVE FLORIDA



by Anne Webb

Florida has been badly damaged.

Where nature blended earth and sky and sea into a unique pattern, an elaborate tropical and semi-tropical land teeming with lifeforms both ordinary and mythically weird, people were naturally attracted to this intriguing and complex land, but imposed demands more easily met by simpler and more rugged landscapes. Thus, Florida is today a primary battleground between the uncontrolled forces of technological society and the irreplaceable values of the natural land. As Raymond F. Dasmann has written in his book about the fight to save Florida, "The United States begins or ends in Florida. There is no further retreat than its tropical shores and islands. If we do not win the battle for the human environment in Florida, we will probably not win it anywhere." *

There is reason to believe that this battle may be won. The damage done by man, while severe, is not totally irreparable. Inevitable doom is not the only verdict possible against people who have frequently lapsed in their stewardship of the

U.S. Forest Service

country's only area of tropical life. There is hope, and only with hope can there be a willingness to work and to fight for improvement.

Hope comes from the land itself. Florida is a land of natural fire and flood, battered by hurricanes and pounded by the sea. Here life must be resilient and tough to grow back and thrive after natural disasters. Man-made forces of destruction, while seldom new, have been drastic and have even broached potential catastrophe, making resurgence more difficult. But earth's creatures and their sheltering habitat, though pushed up against the wall, can, given half a chance, survive calamity as they have before in the great geological past.

There are an increasing number of people who are trying to better the odds, trying to give the endangered Florida environment a better-than-fighting chance. Many of these people, as well as the organizations in which they participate and the businesses in which they are involved, are working with The Nature Conservancy and its Florida Chapter. In its three years of intensive activities in Florida, the Conservancy has chalked up some impressive "battles won." Now, at the end of the first year of what has been labeled the

environmental decade, there are more hopeful developments to report.

The first item of "good news" is that after two long years of negotiations, the largest project ever undertaken in Florida can be counted saved, due to the cooperative efforts of the Conservancy, a government agency, and a large resource-based industry. The land involved was the Gulf Hammock Wildlife Management Area, a magnificent salt marsh estuary owned by the Georgia-Pacific Corporation and which the State of Florida wished to acquire for a wilderness area. Through many twists and turns, the Conservancy coordinated the lengthy negotiations until a workable agreement was made between the State and Georgia-Pacific.

The last step was a vote by the Executive Board of the Department of Natural Resources which was to meet on the matter just one day before the Conservancy's option to purchase was to expire. There were some anxious moments on the morning of the meeting; but, when word came through, the news was good: Georgia-Pacific had made a gift of some 7,000 acres to the State of Florida and the State would purchase an adjoining 19,500 acres. The Conservancy's option was assigned to and later exercised by the State.

The 26,500-acre Gulf Hammock preserve is one of the largest and most significant untouched estuary systems in the entire state. The area in Levy County stretches along Waccasassa Bay, an inlet of the Gulf of Mexico, for twenty miles, running from Cedar Key National Wildlife Refuge to Yankeetown, an old fishing community. It is a *Spartina* and *Juncus* marsh, with numerous hammocks—land islands of deep rich soil and mixed broadleaf hardwoods. From the preserve's long and meandering shoreline, one can observe a drama of sky and clouds over the Gulf: sunsets of blazing warm colors streaked with crisp cool tones; massive and violent rainstorms; thunderbolts firing electricity into the sea; and, occasionally, sinister waterspouts that become tornadoes when they venture onto land.

The entire Gulf Hammock area will be protected by the State of Florida, thus insuring that the marine resources industries of the Gulf, which are so dependent on such areas as nurseries for shell and fin fish, and the citizens of Florida, who will have the land as a wilderness park, will both benefit.

Less than a month before the Gulf Hammock preservation, another important acquisition was made known at the Conservancy's Annual Meeting in Savannah—the Cummer Company, a land and timber company headquartered in Jacksonville, had given the Conservancy some 985 acres along the lower Suwannee River in Florida to be

U.S. Forest Service

maintained as a natural area.

The gift was not only of great importance in the Conservancy's priority program to set aside as much as possible of the nation's vanishing wetlands, but it was also a matter of great personal satisfaction for Christopher Cummer, an ardent conservationist who had worked for more than a year to identify the organization that would best care for the bottomland hardwood forest of cypress, tupelo, and sweetgum. Here, several generations of his family had hunted, fished, boated, and birdwatched. The federal government had made an extensive study of the area in hopes of making the Suwannee a National River—but that might take years to accomplish, if at all. Meanwhile, some local citizens were eyeing the possibilities of private development, the kind of exploitation that has so frequently meant the damage or loss of unique Florida geography.

Severe indeed would have been the loss of any of the Suwannee River region whose heavy forests and flowing waters provide habitat for an abundance of wildlife including bass and sunfish, deer, opossum, wild hog, quail, wild turkey, various songbirds and wintering ducks, and, in smaller numbers, black bear and Florida panther. A number of species on the Rare and Endangered List inhabit the Suwannee basin: American alligator, southern bald eagle, and Florida manatee. The area is also rich in herpetological specimens: forty types of snakes have been reported, including Eastern coral snake, Eastern cottonmouth, and three species of rattlesnake. Within the preserve itself, two low islands rise above the wide and meandering river whose waters, though appearing blackish, are clean and springfed.

Only after serious consideration did the Cummer family decide that The Nature Conservancy would indeed be the best management organization for the land. Thus, their gift became the first acquisition in a long-range program to preserve and protect major reaches of the Suwannee, keeping it pure and wild as it flows from Okefenokee Swamp in Georgia to the Gulf of Mexico.

There is a third and slightly different story of people working to save land in hopes of bettering the quality of life for everyone. The preservation of Sweetbay Swamp in Tallahassee was a grassroots effort. Sweetbay Swamp is a mere six acres, a virtual speck compared with the Cummer Sanctuary or Gulf Hammock, but it is as indicative as either as to what is meant by the frequently used Conservancy phrase "the preservation of ecologically and environmentally significant land."

This tiny woodland exists in a busy state capital, surrounded on all sides by houses and development so typical of the fastest growing state in the country. The area supports sweetbay (magnolia), crepe myrtle, large live oak, and mature pine. Small springs flow out of the moss-covered ground and into a tiny stream. Here it is beautiful, and quiet exists—an oasis in the midst of suburbia.

This small and quiet place captured the hearts of the people—all kinds of people. A group of students and local citizens, with some advice and counsel from The Nature Conservancy, formed the Save Sweetbay Swamp Committee, and, by nickels, dimes, and occasional dollars, they managed to raise enough money to secure an option on the property.

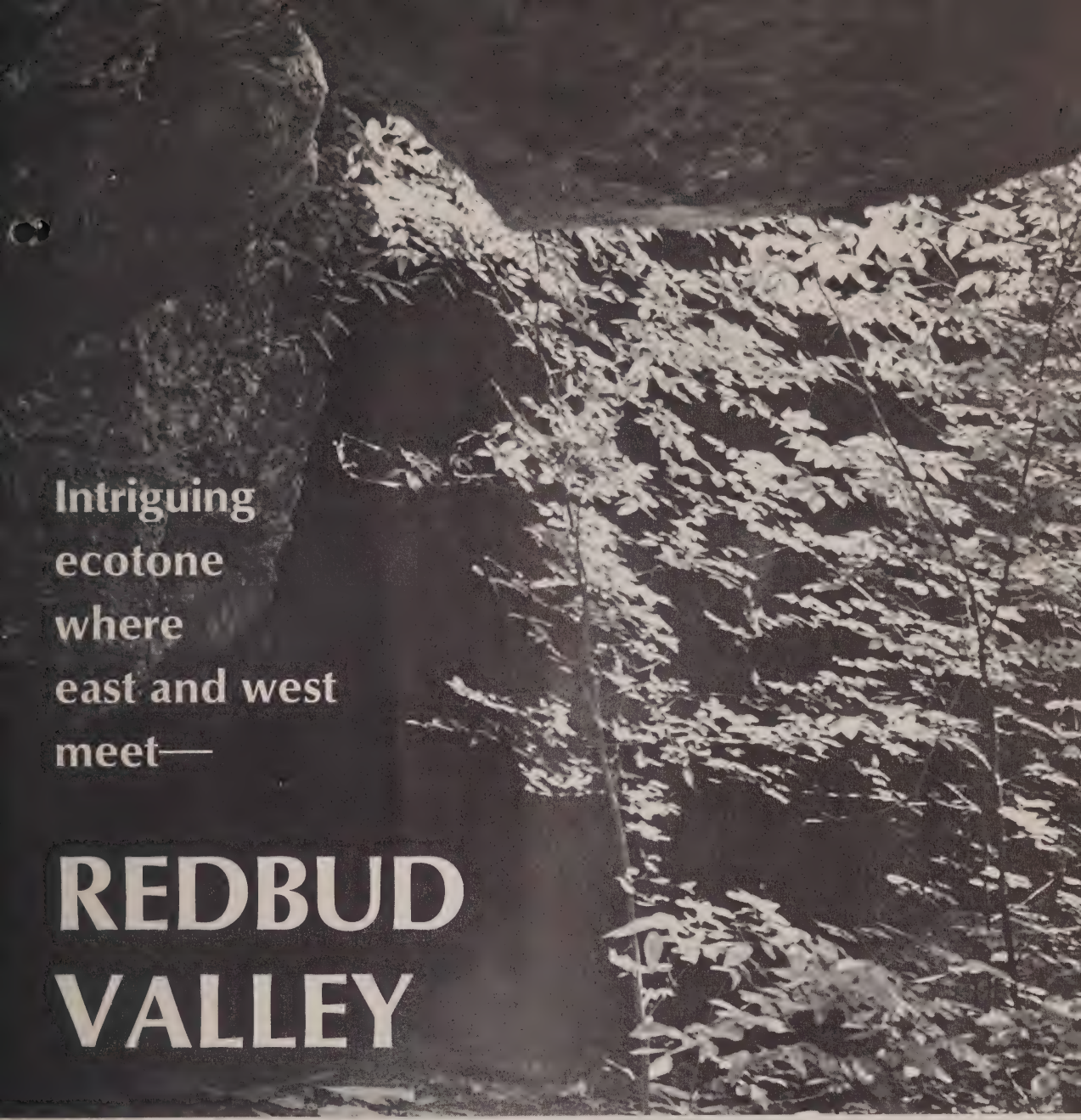
But options have expiration dates and sometimes these seem to come too soon. The committee kept working to obtain the needed funds with "beg-ins" at shopping centers, collections in schools, and appeals on radio and in the newspaper. Everyone knew about Sweetbay Swamp, but enough money just wasn't being found. Just when it seemed that the effort might fail, another group of local citizens, organized as an official Conservancy project committee, managed to convince the city government of Tallahassee of the need to save the swamp. The city government, in turn, by a "letter of intent" asked the Conservancy to buy the property as a park. With a finally united effort of many groups and interests, the people of Tallahassee succeeded in saving Sweetbay Swamp as a natural area to enjoy.

These three Florida acquisitions, along with additions to previously established preserves such as Sanibel Island, Rookery Bay, and Theodore Roosevelt Preserve, have brought the total acres preserved in the state through the involvement of The Nature Conservancy to nearly 50,000. This acreage reperesents both kinds of places that the Conservancy is working to preserve in Florida through an ongoing and systematic statewide program: the wetlands and estuaries, so important for their high biological productivity and contribution toward a restored ecological balance, and the small pocket parks, remnants of once vast ecosystems, so necessary for the education of and appreciation by both children and adults in urbanized areas.

This is a vital program, one where each conservation success gives hope and impetus to harder work. It is also an exciting program, one that has taken and will continue to take the energies of all kinds of people and organizations working together—and together they may just have a fighting chance to save Florida's remaining "wild nature."

---

* Raymond F. Dasmann, *No Further Retreat* (New York, 1971), p. 8.



## Intriguing ecotone where east and west meet—

# REDBUD VALLEY

by Albert P. Blair

For more than forty years students at the University of Tulsa have been conducting research and field trips at a ravine called Redbud Valley, some 12 miles northeast of Tulsa, Oklahoma. Here, a rocky upland grassland abruptly breaks into bluffs and steep-sided valleys along the floodplain of deeply entrenched, meandering Bird Creek. East meets west here in an ecotone *par excellence,* with such disparate associates as Dutchman's breeches and barrel cactus, buffalo grass and wood fern, sugar maple and thick-leaved hackberry, spicebush and Mexican plum, jackrabbit and fox squirrel, pocket mouse and short-tailed shrew.

In spring the color and fragrance of redbud, hawthorn, Mexican plum, spicebush, and smoke-tree delight the senses. As spring progresses toward summer, the rocky prairie is a mosaic of color as barrel cactus, yucca, stonecrop, and a variety of composites and mustards mingle their

hues. In autumn the showy fruit of persimmon, deciduous holly, hawthorn, and moonseed brighten the scene as the vivid colors of sugar maple, smoketree, and white ash decline.

The floodplain along Bird Creek is dominated by black willow, silver maple, American elm, pecan, cottonwood, sycamore, and burr oak, some of truly majestic size.

On the steep slopes and bluffs, the floodplain trees are replaced by sugar maple, smoketree, chinquapin oak, Shumard's oak, red oak, white ash, spicebush, and bladdernut. In crevices in the massive Oologah limestone bluffs grow columbine in profusion, five species of fern including cloak fern and walking fern, and raspberry and other trailing shrubs. Brush mice and pack rats live in the cracks in the bluff and betray their presence by accumulations of nut and acorn shells. At one point, near the head of the ravine, a travertine spring flows from the base of the highest bluff, which forms a great overhang and where a cave yawns its invitation to enter over 100 feet into the rock's interior.

Above the bluffs, on the flat prairie, the occasional trees and shrubs are chiefly blackjack and post oak, persimmon, false buckthorn, fragrant sumac, hawthorn, rough-leaved dogwood, and soapberry. Yucca, cacti, and an abundance of grasses, including little bluestem, big bluestem, broomsedge, silver beardgrass, Indian grass, buffalo grass, and side oats grama, cover the ground. Under the thousands of limestone slabs, large and small, that lie on the surface of the ground, live pocket mice and other rodents, numerous species of small snakes and lizards, the little Great Plains narrow-mouthed toad that finds tarantula company congenial, and many species of insects, including a rare camel cricket.

Seen as a natural unit in isolation, Redbud Valley is remarkable, but seen in relation to recent developments in the growing Tulsa community, it is amazing and fortunate that it is one of the last substantial strongholds of natural habitat in the area. Redbud's 82 acres are only a fraction of a larger area known as Garnett Prairie. Three of the Prairie's original five ravines had one by one been subjected to excavation by a local company, which also owned the fourth. Only the easternmost and largest ravine—Redbud—remained by the summer of 1969 when Dr. Harriet G. Barclay became alarmed.

Professor in the Life Sciences Department at the University of Tulsa, Dr. Barclay had overseen the use of Redbud Valley as an outdoor laboratory by her students for many years and was not about to see such an important educational and research facility threatened. Not only was it

threatened by the excavations nearby, but an eager developer was eyeing the property for residential construction. Dr. Barclay got in touch with The Nature Conservancy.

Both the owners and the friendly real estate agent assisted in holding off the developer in time for the Conservancy to plunk down the downpayment on the property with the aid of its Project Revolving Fund. Thus Redbud Valley became the Conservancy's first Oklahoma project and another point for conservation thanks to timely foresight and a check.

With the land initially secured, the Redbud Valley Preserve Project Committee, headed by Dr. Barclay, was formed to raise the $80,000 necessary to fulfill the purchase contract and to repay The Nature Conservancy. In efforts to tell the Redbud story, to raise funds, and to promote its use as a natural area for the citizens of Tulsa, Dr. Barclay and her students have constructed nature trails, provided guided tours, and regularly opened the area to conservation-minded groups and individuals. Two special tours are held each year, one for the spring redbuds and flowers and the other for the rich and fiery colors of the sugar maples and oaks in the fall. The Fall 1971 tour drew over 200 enthusiastic people and included local television coverage.

As this community interest continues on the rise, the Redbud Valley Preserve Project Committee invites, indeed earnestly seeks, the assistance of all the citizens of Tulsa and the state of Oklahoma and of Conservancy members and supporters throughout the country to join in bringing final security to the rocky bluffs and natural delights of Redbud Valley.

## DR. E. LUCY BRAUN VOTED INTO OHIO'S CONSERVATION HALL OF FAME

The late Dr. E. Lucy Braun of Cincinnati, an internationally known botanist and tireless worker for Nature Conservancy causes, has been voted into the Ohio Conservation Hall of Fame by State officials. She is the first woman to be so honored.

Dr. Braun, who died March 5, 1971, was Professor of Ecology Emeritus in the Department of Botany at the University of Cincinnati. Her long, distinguished career included past presidency of the Ecological Society of America and of the Ohio Academy of Science, many academic honors, and outstanding research and publications on plant ecology and deciduous forests.

As a member of the Ohio Chapter of The Nature Conservancy, she was actively involved in the creation of the Buzzardroost Rock, Wilderness, and Lynx Prairie preserves in Adams County. Lynx Prairie was subsequently renamed the E. Lucy Braun Preserve and was designated a Registered National Landmark in 1967.

The Cincinnati Museum of Natural History is accepting contributions to the Dr. E. Lucy Braun Memorial Fund for additions to the Adams County preserves.

T. Kaplan

# DISCOVERING THE EARTH & ITS CREATURES

by Phyllis R. Dix and Shirley C. Reid

In the fall and spring, the children of the Bedford, New York, elementary schools take to field and forest armed with spade, magnifying glass, and boots to learn how the natural world works. Prepared by lessons in their classrooms, they begin their field trips knowing how to poke and peer, feel and smell, and as they look and question they discover for themselves that nothing stands alone and that all life is interwoven.

The field trips are conducted at the Arthur W. Butler Memorial Sanctuary, Halle Ravine, and other nature preserves in the area. Butler Sanctuary, a 365-acre preserve, is a Nature Conservancy holding, as are the 38 acres of Halle Ravine. The Board of Butler Sanctuary has sponsored, along with the Bedford and Rusticus Garden Clubs, this pioneer conservation education program for children for the past eleven years.

The township of Bedford sprawls over a large rural area 37 miles north of New York City and has elementary schools in the villages of Pound Ridge, Mt. Kisco, Bedford, and Bedford Hills.

The school conservation program began when a director of Butler Sanctuary suggested providing a means by which forest, swamp, and field could yield basic knowledge and inspire a love of nature for as many children as possible. A farsighted principal of one of the local schools sup-

ported the idea, and the president of the Bedford Garden Club helped give direction to the small beginnings. Several interested nature buffs met and planned a program for the fourth and fifth grades; later, lessons for the third grade were added. In 1961 this program reached approximately 300 children; today it reaches over 1100.

This program is taught both in the classroom and out-of-doors entirely by volunteers from the surrounding communities. We now number fifty and call ourselves "sponsors" to avoid confusion with certified teachers. Among the volunteers are housewives, young mothers, Girl Scout leaders, ex-teachers, retired persons, and members of our Garden Clubs, PTA's, and the Junior League. Most of the sponsors begin as neophytes not only in the field and woods but also in the classroom, but their abundant enthusiasm makes them amateur naturalists by the end of the course. They are assigned their own sections in the class and school of their choice and teach once a month from October to May with lessons designed to last from 45 to 60 minutes.

The third grade lessons deal with mammals, birds, insects, pond life, and related subjects. The children investigate the structure, habits, and life cycles of these animals and how the animals fit their environment and survive in their habitat. Lessons for all grades are illustrated with posters, flannel boards, exhibits, and experiments.

The fourth grade children first explore the forest community as a whole, then learn how trees work, why they are a valuable natural resource, and what the impact of the forest was in the history of our country. Modern conservation methods of both tree and agricultural farming are discussed along with field progression.

The fifth graders examine various soil samples to learn the components of soil. They study the properties of water, watershed areas, underground water, and how soil and water work together and how nature attempts to strike a balance between the two. They then proceed to natural resources and current conservation efforts.

This three-year course progresses from simple to more complex concepts of ecology so the children will gradually grow more aware of the interdependent relationship between plant, soil, water, animal, and man.

The lessons were written, and are continually updated and revised by two original founders of the program, Phyllis Dix and Shirley Reid. As the program grew, the lessons expanded to include the experience, imagination, and ideas of an ever-revolving group of sponsors. Eventually, it is hoped that the lesson manual can be published for the benefit of others.

The field trips last a morning or an afternoon and each trip has a different emphasis. Two fourth grade trips are a comprehensive study of the forest community. The children look at the differences in varieties of deciduous and evergreen trees, their leaves and bark. They study the stratified layers of the woods and understand how these affect the climate of the forest, keeping it cool and damp. They discover that the soil they dig through with their fingers is loose and crumbly.

Do leaves serve not only the tree but the ground as well? Are the worms and centipedes or the beetles scurrying under a rolled log players in the drama of life in the woods? What are the white threads in the soil? Are these mycellia of fungi contributing to the breakdown of leaves to soil? Why are stone walls found in the middle of forests? What uses those stone walls now?

The children and the sponsor explore questions such as these together, the children finding answers for themselves by being led "to see." The children love getting out to explore a wood or tramp around in a swamp to learn why a skunk cabbage smells delectable to a certain fly. Others trace a tiny outlet stream from an upland swamp to a reservoir or lake in a natural watershed area and then visit a pumping station. When they return home and turn on the tap, they have a better understanding of how the water got there, from the first raindrop to the gush of water from their faucet.

The largest class is divided into groups of ten to fifteen children, each group with a sponsor. The sponsor walks with the group to predetermined places of interest, then stops for exploration, questions, and discussion. Although the trips are guided according to planned lessons, every sponsor hopes for such unexpected events as the glimpse of a fox, a grouse, or a deer. Many children learn for the first time to relate to the environment through some small but not unimportant adventure such as this. We had a little girl once who became intrigued with the smooth feel of a young tulip tree. This sparked her interest in the rougher feel of an older tulip, which in turn opened her eyes to the texture, smell, and differences between shag bark, birches, oak, and others.

The classroom provides the background and the Sanctuary provides the necessary environment to visually and tactilely teach the children to understand and appreciate the natural world around them. They learn that a sanctuary is a place for animals and plants to live undisturbed by man but can also be a place for people to observe how nature works.

# NORTH SHORE DUNES

## Windswept Lake Michigan Dunescape

P. W. Thompson

by Paul W. Thompson

Ageless and persistent, the wind has sculptured the sands along the eastern shores of Lake Michigan into picturesque dunescapes. Enormous amounts of sand have been molded into softly undulating surfaces that create a pattern of hills, ridges, valleys, blowouts, swales, slides, and wide stretches of open sand.

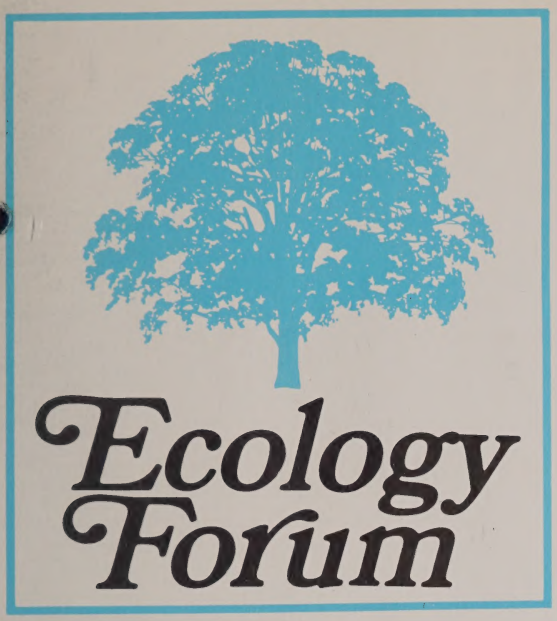
The Nature Conservancy has now become the curator of a 50-acre piece of this majestic dune country. The North Shore Dunes Preserve lies just north of Grand Haven, Michigan, near a growing beach resort community. Rather than sell his property to interested developers, Mr. Gerald E. Lindquist of Spring Lake, Michigan, chose to see this outstanding sample of Lake Michigan duneland preserved and used for educational purposes. He subsequently donated the land to The Nature Conservancy, which in turn plans to deed it to Central Michigan University for ecological research and teaching.

In its natural isolation, the topography of North Shore Dunes magnificently reflects the work of wind currents. The varied assortment of plant life that has adapted itself to each sandy niche demonstrates the results of an interplay of environmental forces.

Their tops bared to the wind that built them, the open dunes are places where only the hardiest of vegetation can gain a foothold. These rugged plants include sand cherry, buffalo berry, juniper, lyre leaf mustard, showy puccoon, starry false Solomon seal, beach pea, and a number of beach grasses. The colorful butterfly weed, white pitcher's thistle, seaside rocket, and dune lily can also be found here. Certain of these species have a stabilizing effect on the sand that supports them. In the low inter-dunal areas, vegetation takes on a different character where it is protected from the wind. Valleys between dune ridges may harbor false heather. In some locations marshy depressions known as swales support typically aquatic species. Where conditions are most sheltered and least conducive to change, on the inland sides of the dunes, numerous trees have managed to establish themselves. Three native species of pine (jack, red, and white), oak, cottonwood, white cedar, hemlock, and Canada yew thrive in this protected habitat. Interspersed among the trees are wild sarsaparilla, horse mint, cow wheat, wood betony, Canada mayflower, and partridge berry, as well as the Prince's pine and its rare relative, the spotted or striped Prince's pine.

A panoramic picture of the entire North Shore Dunes Preserve against its Lake Michigan backdrop is the reward of a climb to the top of the gigantic sand mountains which rise directly east, behind the inland boundary of the preserve. These scenic dune pinnacles, found only in certain localities along the lakeshore, are included in a tract planned to become a park for the Grand Haven community. The Conservancy and municipal tracts will together preserve a natural duneland unit which constitutes an important protective buffer for inland areas against the constant forces of wind and weather.

That some people recognize the scenic and ecological value as well as the geologic role of these wild and windswept dunelands and will work to save them indicates an element of hope for the continued existence of such habitats that stands out in the midst of the mounting pressures for an asphalted beachside suburbia.




No. 2
by Robert E. Jenkins

## WHAT *IS* A 'PRESERVE'?

The Nature Conservancy has an important role to play in the fight for environmental quality, but it alone cannot hope to save the country from itself in regard to the environmental consequences of land abuse. We can never save enough land to preserve all the life support systems, to substantially reduce soil loss and timber carnage, to halt suburban sprawl, to block every unwise development, or to effectively countervail all of the destructive forces at work in our society. Instead we must exercise great selectivity in the use of our resources to preserve the highest quality natural areas for scientific research, different sorts of education, and especially to act as preserves or sanctuaries for species other than man.

This last epitomizes the very essence of most Conservancy projects, which implicitly emphasize the preservation of natural diversity. Our record in setting aside lands for the protection of endangered species, deteriorating ecosystems, and unusual life forms is admirable, but it is time to realize that to perpetuate biological species and associations it is not enough to simply preserve lands on which these are known to occur. Too often the fragments of remaining habitat which might be obtained are not large enough, nor have they the right combination of characteristics to stand alone in support of natural ecosystem components. If such an area fails to provide all of the elements necessary to sustain the target organisms, it may "officially" be called a preserve, but in fact it is not. Such a situation may be worse than no preserve at all since a groundless sense of accomplishment may foster a counterproductive complacency.

To really function as a nature preserve, an area must be established with careful planning based on sound biological knowledge. Ideally, a preserve should be a self-sufficient entity, as independent of its surroundings as possible. This ideal can seldom be realized because of animal mobility and other factors, but preserves can still be better or worse in this respect. Even the largest and most diverse preserves can only partially provide for migratory birds, for example, but some could be deficient even for the seasonal needs of such wide ranging populations.

Other things being equal, "the larger the better" is probably the best rule for preserve establishment. Even where the habitat surrounding the feature of essential interest is greatly altered, its protection may be very significant as bufferage and it may become progressively more useful as succession restores more of its natural character. A mixture of disturbed and undisturbed areas may even be beneficial because lands in various stages of succession provide a diversity of habitats and the "edges" or ecotones which are frequently very advantageous to certain species.

The establishment of viable natural area preserves is a tremendously complicated subject which can be dealt with here only in barest outline, but much can be accomplished with simple, common-sense planning. A few of the factors which must be considered are the size, shape, and topographical situation of the intended preserve; the physico-chemical environment; characteristics of the target species or communities, including species diversity, productivity, population dynamics, life histories, home range or territory sizes, distribution, social organizations, food chains, mutualistic relationships, etc. The complexity of the planning task is somewhat simplified by the fact that in any system not every component is equally important or instructive to the observer. Planning can be keyed to certain "indicator" organisms which are less tolerant of, or more limited by, environmental factors which affect the entire system. A preserve large enough to support viable populations of the rarest or most vulnerable species will probably be adequate to sustain the other members of the community, and a level of air or water quality satisfactory for the most susceptible species should be sufficient for all of the rest.

A necessary quality of any preserve which cannot be over-emphasized is its defensibility. This can be illustrated in relation to hydrology and water quality. If the headwaters of major

(*Ecology Forum, continued*)

streams on a preserve lie outside its boundaries, events upstream can adversely affect the preserve through pollution, siltation, alteration of stream levels, etc. Downstream developments could also be damaging in the case of reservoirs backing up behind dams or interference with fish and wildlife movements by chemical or physical barriers. The siting of a natural area in relation to sources of air pollution would be similarly important.

A last aspect of preserve viability concerns the need for continuing protective management. The most ideal and defensible preserve in the world will not be successful if a lack of actual defense lays it bare to encroachment or destruction. Timber theft, malicious trespass, arson, and legal shennanigans are a few of the threats which must be constantly guarded against. Community support, adequate surveillance, and legal and political knowledge all play an important role in defending a preserve, as do coordination of activities, allocation of responsibilities, and continuing enthusiasm for the all-important stewardship aspect of preservation.

Not every piece of property acquired and owned by the Conservancy meets the rigorous criteria by which a biological preserve must be measured. Although less perfect areas have their value for education, research, aesthetic, or ecological functions, I think that everyone will agree that the preserve component of our activities is our most unique and important one. To set aside fragments of land here and there as green belts, recreational areas, and the like is to do in a small way what many other organizations are also doing. If we are to concentrate our efforts on the critical need to preserve organic diversity for the future, we would be well advised to take a hard look at the properties which we already own and those we contemplate acquiring in order to determine their true value in regard to this preservation ideal. In some instances we may decide to turn our attentions elsewhere, but in others such an assessment will suggest some adjustments in our planning concepts which will turn merely attractive areas into wonderfully important natural refuges for the earth's besieged biota.

## IMPORTANT ANNOUNCEMENT!

### New Annual Membership Dues Effective January 1, 1972

As approved by the membership at the 1971 Annual Meeting, the following dues schedule for Annual Memberships will go into effect January 1, 1972:

**ANNUAL MEMBERSHIPS**

**Special Categories**

$1000 Patron *
$1000 Corporate
$500 Sponsor *
(* Includes Life Membership with initial contribution)

**Regular Categories**

| | |
|---|---|
| $100 Guarantor | $15 Family |
| $50 Supporting | $10 Subscribing |
| $25 Contributing | $5 Junior (under 18) |

The minimum annual adult dues have been increased from $5 to $10, and the category name changed from Annual to Subscribing. Also, Junior membership for individuals under 18 years of age has been increased from $2 to $5.

While the Sustaining category has been dropped, a new Family category has been introduced in which all persons in a single family residing at one address may share a membership upon annual dues payment of $15.

The new annual Corporate membership, previously announced in the Fall *News*, will allow corporations to become members of the Conservancy with a minimum yearly $1000 contribution.

## Two More Conservancy Preserves Named To National Registry Of Natural Landmarks

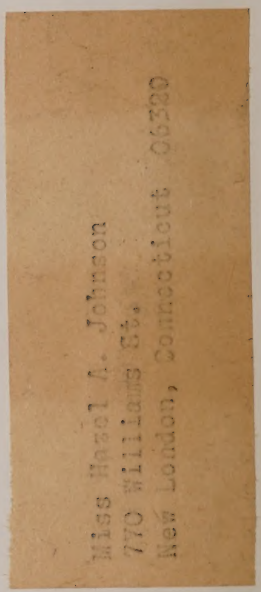
Two Conservancy preserves, Ezell's Cave (Hays County, Texas) and Shelta Cave (Madison County, Alabama) were recently added to the National Registry of Natural Landmarks administered by the National Park Service. The announcement was made November 28, 1971.

## Project Revolving Fund Progress Report

The Project Revolving Fund now stands at $2,328,000. Each donation to the Fund is increased 25% by the Ford Foundation challenge grant. We will continue to report on the progress of the Fund toward the $4,000,000 goal in each issue of the *News*.

# PLEASE SUPPORT THE GENERAL FUND

NON-PROFIT ORG.
U.S. POSTAGE
**PAID**
PERMIT NO. 9388
WASHINGTON, D. C.




THE NATURE CONSERVANCY

**National Office**
1800 North Kent Street
Arlington, Virginia 22209
(703) 524-3151

**LAND CONSERVATION THROUGH PRIVATE ACTION**

**Western Regional Office**
215 Market Street
San Francisco, California 94105
(415) 989-3056

**Midwest Regional Office**
329 West 15th Street
Park Terrace Building
Minneapolis, Minnesota 55403
(612) 332-2060

**Eastern Regional Office**
1800 North Kent Street
Arlington, Virginia 22209
(703) 524-3151

**Mid-America/Gulf Regional Office**
260 Ludlow Avenue
Cincinnati, Ohio 45220
(513) 961-0725